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IS 7143 (1973): Crab Meat Canned in Brine [FAD 12: Fish and Fisheries Products]



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IS: 7143-1973

Indian Standard
**SPECIFICATION FOR
CRAB MEAT CANNED IN BRINE**

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MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
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SPECIFICATION FOR CRAB MEAT CANNED IN BRINE

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AMENDMENT NO. 1 AUGUST 1978
TO
IS : 7143-1973 SPECIFICATION FOR
CRAB MEAT CANNED IN BRINE

Alterations

- (*Page 4, clause 3.3.3, line 7*) — Substitute ' 1 mg/kg ' for ' 5 ppm '.
- (*Page 5, clause 4.7, line 2*) — Substitute ' 62 percent ' for ' 65 percent '.
- (*Page 5, clause 5.1.1, line 2*) — Substitute ' may be lined ' for ' lined '.
- [*Page 6, Table 1, col 3, against Sl No. (v)*] — Substitute ' 0.1 ' for ' 2 '.

(AFDC 27)

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Indian Standard

SPECIFICATION FOR CRAB MEAT CANNED IN BRINE

0. FOREWORD

0.1 This Indian Standard was adopted by the Indian Standards Institution on 24 December 1973, after the draft finalized by the Fish and Fisheries Products Sectional Committee had been approved by the Agricultural and Food Products Division Council.

0.2 Canning of crab meat has been started in the country on a moderate scale for export as well as internal consumption. It is hoped that the formulation of an Indian Standard on the subject would help in defining the quality of canned crab meat in a better way and would help in processing and canning of good quality crab meat in the country under hygienic conditions.

0.3 Crab meat is obtained from fresh crabs. The crabs are washed, cooked and deshelled and crab meat after blanching is canned.

0.4 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS:2-1960*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

1. SCOPE

1.1 This standard prescribes requirements and methods of sampling and test for crab meat canned in brine.

1.1.1 The term crab shall apply to the edible species of the genera *Scylla* and *Protunus*.

2. TERMINOLOGY

2.1 Blanching—Heating the crab meat in boiling brine for an adequate period so that it attains the characteristic flavour and firm texture.

*Rules for rounding off numerical values (*revised*).

3. REQUIREMENTS

3.1 Hygienic Requirements—The material shall be prepared, filled and processed under hygienic conditions and only in premises maintained in a thoroughly clean and hygienic manner [see IS:4303 (Part II)-1967*].

3.2 Raw Material

3.2.1 The raw material used for preparation of canned crab meat shall be fresh crabs without any noticeable injury.

3.2.2 Vacuum dried salt or common salt conforming to IS:594-1962† shall be used.

3.3 Preparation and Processing

3.3.1 Species, such as *Scylla serrata*, which can live for a considerable time outside water, shall be paralyzed instantly by putting them in ice water. These paralyzed crabs shall be packed in ice for a minimum period of 3 to 4 hours.

3.3.1.1 In the case of species like *Protunus pelagicus*, which die in a short time after removal from water, there is no necessity to paralyze them. These crabs shall be packed in ice straight away.

3.3.1.2 The crabs packed in ice as mentioned above are dressed by removing the dorsal, viscera and gills. The material shall be washed in potable water jets to remove slime and dirt.

3.3.1.3 The crabs so cleaned shall be precooked for sufficient time. After cooling, the meat shall be separated. The claw meat and body meat shall be kept separately.

3.3.2 The claw meat and body meat separated after deshelling shall be properly blanched in boiling brine containing citric acid, if desired. The blanched meat shall be cooled, and filled in sulphur-resistant lacquered cans lined with parchment paper. The packed cans shall be filled with brine of sufficient strength to get optimum salt concentration, mixed with adequate quantity of acetic acid and citric acid to prevent bluing and blackening.

3.3.3 The cans shall be exhausted by heat, steam or mechanical process and sealed in hot condition by double seaming. The sealed cans shall be processed at such temperature and for such length of time as will ensure adequate sterilization of the finished product without burning, scorching or overcooking. Water used for the cooling of cans shall be maintained in clean condition and shall be chlorinated to maintain a minimum residual chlorine concentration of 5 ppm. The meat shall be packed with claw meat sandwiched between body meat.

*Code for sanitary conditions, handling and transport in fish industry: Part II Sanitary conditions for fish processing units.

†Specification for common salt for fish-curing (revised).

3.3.3.1 The can exterior, specially seams, shall be free from dents, rust, perforations and distortions. The cans shall not show leaking, panelling or swelling. The interior of the can on opening shall not show any visible black discolouration, rusting or pitting and the inside lacquer shall be in good condition.

3.3.4 The packed can shall be adequately filled with brine of sufficient strength so that optimum salt concentration is obtained in the product. The filled cans shall be exhausted, seamed, washed and processed in steam under pressure. The heat treatment shall be for such a length of time and at such a temperature that there is no overcooking and at the same time, the cans are made commercially sterile. The heat treated cans shall be cooled in water chlorinated to 5 ppm available chlorine.

4. REQUIREMENTS FOR FINISHED PRODUCT

4.1 The contents of the can on opening shall present a characteristic colour and odour of crab meat and shall not give any foreign odour.

4.2 The material shall be free from scorched, bitter or any objectionable flavour.

4.3 The material shall be free from stains, dirt, insect or hair or other extraneous matter. It shall be free from veins, membrane, shell particles and pieces of appendages.

4.4 The material shall be free from bluish colour.

4.5 The material shall be free from any poisonous and deleterious substances.

4.6 Preservatives — The material may contain the preservatives and firming agents permitted under Prevention of Food Adulteration Rules.

4.7 Drained Mass of the Contents — The drained mass of the contents in each canned shall be not less than 65 percent of the net water capacity of the can as tested by the method given in Appendix B of IS : 2236-1968*.

4.8 The material shall also conform to the requirements prescribed in Tables 1 and 2.

5. PACKING AND MARKING

5.1 Packing

5.1.1 Packing in Cans — The material shall be packed in cans uniformly coated internally with sulphur-resistant lacquer and lined with parchment paper. These shall be sealed hermetically. The lacquer used shall be such that it does not impart any foreign unpleasant taste and smell to the contents of the can and does not peel off during processing and storage. The lacquer shall not be soluble in brine to any extent.

*Specification for prawns/shrimp canned in brine (first revision).

TABLE 1 REQUIREMENTS FOR CRAB MEAT CANNED IN BRINE

(Clause 4.8)

Sl. No.	CHARACTERISTIC	REQUIREMENT	METHOD OF TEST, REF TO APPENDIX OF		
			This Standard	IS : 2168-1971*	IS : 2236-1968†
(1)	(2)	(3)	(4)	(5)	(6)
i)	Vacuum in can in mm, <i>Min</i>	150	—	—	A
ii)	Sodium chloride in brine, percent by mass, <i>Max</i>	2	—	—	C
iii)	Acidity of brine as citric acid (anhydrous) percent (<i>m/v</i>), <i>Max</i>	0.2	—	—	D
iv)	Bacteriological requirements	To satisfy the test	—	G	—
v)	Acid insoluble ash, percent by mass, <i>Max</i>	2	A	—	—

*Specification for pomfret canned in oil (*first revision*).†Specification for prawns/shrimp canned in brine (*first revision*).**TABLE 2 LIMITS OF METALLIC IMPURITIES IN CRAB MEAT CANNED IN BRINE**

(Clause 4.8)

Sl. No.	CHARACTERISTIC	REQUIREMENT	METHOD OF TEST, REF TO APPENDIX OF IS : 2168-1971*
(1)	(2)	(3)	(4)
i)	Arsenic, ppm, <i>Max</i>	1	B
ii)	Lead, ppm, <i>Max</i>	5	C
iii)	Copper, ppm, <i>Max</i>	10	D
iv)	Zinc, ppm, <i>Max</i>	50	E
v)	Tin, ppm, <i>Max</i>	250	F

*Specification for pomfret canned in oil (*first revision*).

5.1.2 The cans may also be lacquered externally subject to agreement between the purchaser and the vendor.

5.1.3 Packing in Cases — Unless agreed otherwise between the purchaser and the vendor, the cans shall be packed in cases, strong enough to withstand rough handling by rail, road or sea-transport without damage to the contents. The number of cans in each case shall be as agreed to between the purchaser and the vendor.

5.2 Marking—The labelling of the cans shall be done either by printing or lithographing on the cans themselves or by attaching a label, subject to agreement between the purchaser and the vendor.

5.2.1 The can and label together shall give the following information:

- a) Name of the material with the brand name, if any;
- b) Name and address of the manufacturer (optional for export purposes);
- c) Minimum net mass or the drained mass of the contents of the can in grams (and also in ounces, if required by the purchaser, optional for export purposes);
- d) Batch or lot number and the date of manufacture in code to be embossed on the can;
- e) List of additives added; and
- f) Licence number, if any, under which the manufacturer has been permitted to can the material.

5.2.2 The warranty period may also be mentioned on the label subject to agreement between the purchaser and the vendor.

5.2.3 Each container may also be marked with the ISI Certification Mark.

NOTE—The use of the ISI Certification Mark is governed by the provisions of the Indian Standards Institution (Certification Marks) Act and the Rules and Regulations made thereunder. The ISI Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well-defined system of inspection, testing and quality control which is devised and supervised by ISI and operated by the producer. ISI marked products are continuously checked by ISI for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the ISI Certification Mark may be granted to manufacturers or processors, may be obtained from the Indian Standards Institution.

6. SAMPLING

6.1 The method for drawing representative samples and the criteria for conformity shall be as given in Appendix E of IS: 2236-1968*.

7. TESTS

7.1 Tests shall be carried out as prescribed in the relevant appendices in IS: 2168-1971† and IS: 2236-1968* as specified in col 4, 5 and 6 of Table 1 and col 4 of Table 2.

7.2 Quality of Reagents—Unless specified otherwise, pure chemicals and distilled water (*see* IS: 1070-1960‡) shall be used in tests.

NOTE—‘Pure chemicals’ shall mean chemicals that do not contain impurities which affect the test results.

*Specification for prawns/shrimp canned in brine (*first revision*).

†Specification for pomfret canned in oil (*first revision*).

‡Specification for water, distilled quality (*revised*).

APPENDIX A

[Table 1, Item (v)]

DETERMINATION OF ACID INSOLUBLE ASH

A-1. REAGENT

A-1.1 Hydrochloric Acid — approximately 5 N, prepared from concentrated hydrochloric acid conforming to analytical reagent grade of IS: 265-1962*.

A-2. PROCEDURE

A-2.1 Transfer about 5 to 10 g of the sample to a tared silica dish and weigh. Incinerate the material at low heat not exceeding dull redness in the beginning and later at $550 \pm 20^\circ\text{C}$ until free from all carbonaceous material and the ash is white or greyish-white. Cool in a desiccator. Weigh if necessary, and repeat the process of igniting, cooling and weighing until the difference between two successive weighings is less than 1 mg. Note the lowest mass.

A-2.2 To the ash contained in the silica dish (A-2.1), add 25 ml of hydrochloric acid, cover with a watch-glass and heat on a water-bath for 10 minutes. Allow to cool and filter the contents of the dish through Whatman filter paper No. 1 or its equivalent. Wash the filter with water until the washings are free from the acid. Return the filter and the residue to the dish. Keep it in an electric air-oven maintained at $100 \pm 2^\circ\text{C}$ for about 3 hours. Ignite in a muffle furnace at $550 \pm 20^\circ\text{C}$ for three hours. Cool the dish in a desiccator and weigh. Repeat the process until the difference between the successive weighings is less than 1 mg. Note the lowest mass.

A-3. CALCULATION

$$\text{Acid insoluble ash, on moisture-free basis, percent by mass} = \frac{100 (M_2 - M)}{M_1 - M} \times \frac{100}{100 - M_3}$$

where

M_2 = mass in g of the dish with the acid insoluble ash;

M = mass in g of the empty dish;

M_1 = mass in g of the dish with the sample taken for the test;
and

M_3 = moisture content, percent by mass.

*Specification for hydrochloric acid (revised).

INDIAN STANDARDS

ON

FISH AND FISHERIES PRODUCTS

IS:

- 2168-1971 Pomfret canned in oil (*first revision*)
- 2236-1968 Prawns/shrimp canned in brine (*first revision*)
- 2237-1971 Frozen prawns (shrimp) (*first revision*)
- 2345-1972 Dried prawns pulp (*first revision*)
- 2420-1971 Mackerel (*Rastrelliger* sp.) canned in oil (*first revision*)
- 2421-1971 Sardines (*Sardinella* sp.) canned in oil (*first revision*)
- 2883-1964 Dried white baits (*Anchoviella* sp.)
- 2884-1964 Dried and laminated Bombay duck
- 2885-1964 Frozen frog legs
- 3336-1965 Shark liver oil for veterinary use
- 3849-1966 Mackerel (*Rastrelliger* sp.) canned in brine
- 3850-1973 Dry-salted threadfin (*DARA*) and dry-salted jewfish (*GHOL*) (*first revision*)
- 3851-1966 Dry-salted catfish
- 3852-1966 Dry-salted leather jackets (*Chorinemus* sp.)
- 3853-1966 Dry-salted horse mackerels (*Caranx* sp.)
- 3892-1966 Frozen lobster tails
- 4302-1967 Dry-salted mackerel
- 4303 (Part I)-1967 Code for sanitary conditions, handling and transport in fish industry: Part I Pre-processing stage
- 4303 (Part II)-1967 Code for sanitary conditions, handling and transport in fish industry: Part II Sanitary conditions for fish processing units
- 4304-1967 Tuna canned in oil
- 4307-1967 Fish meal as livestock feed
- 4780-1968 Fresh silver pomfret and brown pomfret
- 4781-1968 Fresh threadfin
- 4793-1968 Frozen silver pomfret and brown pomfret
- 4796-1968 Frozen threadfin
- 5198-1969 Dry-salted seer fish
- 5199-1969 Dry-salted shark
- 5471-1969 Dried shark fins
- 5472-1969 Fish maws
- 5734-1970 Sardine oil
- 5735-1970 Recommendation for maintenance of cleanliness in fish industry
- 5736-1970 Dry-salted *SURAI* (Tuna)
- 6032-1971 Mackerel, fresh
- 6033-1971 Mackerel, frozen
- 6121-1971 *Lactarius* spp. canned in oil
- 6122-1971 Seer fish (*Scomberomorus* spp.), frozen
- 6123-1971 Seer fish (*Scomberomorus* spp.), fresh
- 6677-1972 Sardines (*Sardinella* sp.) canned in brine and their juice
- 7143-1973 Crab meat canned in brine

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